

ABSTRACT

There is provided a novel manufacturing process for an epitaxial wafer having an IG ability, wherein heat treatment is applied at a temperature in a range of from 450°C to 750°C to an epitaxial wafer in which oxygen precipitation nuclei are reduced in an epitaxial growth step so as to form new oxygen precipitation nuclei therein, and oxygen precipitation proceeds in a device fabrication process subsequent to the heat treatment, especially oxide precipitates being effectively increased even when a wafer with a comparatively low oxygen concentration is used as a silicon substrate. A heat treatment at a temperature in a range of from 450°C to 750°C is applied to a silicon epitaxial wafer obtained by forming an epitaxial layer on a silicon substrate with an interstitial oxygen concentration in a range of from $4 \times 10^{17}/\text{cm}^3$ to $10 \times 10^{17}/\text{cm}^3$ at a temperature of 1000°C or higher.